

The Listing of Claims:

1. (Previously Presented) A process for preparing an olefin polymerization catalyst component in the form of particles having a predetermined size range, said process comprising the steps of:

- a) preparing a solution of a complex of a Group 2 metal and an electron donor by reacting a compound of said metal with said electron donor or a precursor thereof in an organic liquid reaction medium;
- b) adding said solution of said complex to at least one compound of a transition metal to produce an emulsion, the dispersed phase of which contains more than 50 mol% of the Group 2 metal in said complex;
- c) agitating the emulsion in order to maintain the droplets of said dispersed phase within such an average size range of 5 to 200 μm ;
- d) solidifying said droplets of the dispersed phase by heating; and
- e) recovering the solidified particles of the olefin polymerization catalyst component;

wherein an aluminum alkyl compound of the general formula $\text{AlR}_{3-n}\text{X}_n$ wherein R stands for a straight chain or branched alkyl group having 1 to 20 carbon atoms; X stands for halogen; and n stands for 0, 1, 2 or 3, is added and brought into contact with the droplets of the dispersed phase of the agitated emulsion before recovering the solidified particles in step e).

2. (Original) The process of claim 1, wherein, in step c), the emulsion is agitated in the presence of an emulsion stabilizer and/or a turbulence minimizing agent (TMA).

3. (Previously Presented) The process of claim 1, further comprising washing and drying said solidified particles prior to recovering the solidified particles in step e) and wherein the aluminum alkyl compound of the general formula $A1R_{3-n}X_n$ is added and brought into contact with the droplets of the dispersed phase of the agitated emulsion or the solidified particles before recovering the solidified particles in step e).

4. (Previously Presented) The process of claim 1, wherein the aluminum alkyl compound of the general formula $A1R_{3-n}X_n$ is brought into contact with the droplets of the dispersed phase of the agitated emulsion before recovering the solidified particles in step e) in an amount so that the final catalyst particles have Al content of 0.05 to 1 % by weight.

5. (Previously Presented) The process of claim 1, wherein an aluminum alkyl compound of the general formula $A1R_{3-n}X_n$ is used, wherein R stands for a straight chain or branched alkyl group having 1 to 6 carbon atoms; X stands for chlorine; and n stands for 0, 1, 2 or 3.

6. (Previously Presented) The process of claim 5, wherein n is 0 and R is ethyl.

7. (Previously Presented) The process of claim 1, wherein said Group 2 metal is magnesium.

8. (Previously Presented) The process of claim 1, wherein said liquid organic reaction medium comprises a C_6-C_{10} aromatic hydrocarbon or a mixture of C_6-C_{10} aromatic hydrocarbon and C_5-C_9 aliphatic hydrocarbons.

9. (Previously Presented) The process of claim 1, wherein said liquid organic reaction medium comprises toluene.

10. (Previously Presented) The process of claim 1, wherein said electron donor is a mono- or diester of an aromatic carboxylic acid or diacid.

11. (Previously Presented) The process of claim 10, wherein said aromatic carboxylic acid ester or diester is formed in situ by reaction of an aromatic carboxylic acid chloride or diacid dichloride with a C₂ – C₁₆ alkanol and/or diol.

12. (Previously Presented) The process of claim 10, wherein said aromatic carboxylic acid ester is dioctyl phthalate.

13. (Previously Presented) The process of claim 1, wherein the preparation of the Group 2 metal complex is carried out at a temperature of 20° to 80°C.

14. (Previously Presented) The process of claim 13, wherein the Group 2 metal is magnesium and the preparation of the magnesium complex is carried out at a temperature of 50° to 70°C.

15. (Previously Presented) The process of claim 1, wherein said transition metal is a Group 4 metal, a Group 5 metal, and/or a Group 6 metal or mixtures thereof.

16. (Previously Presented) The process of claim 1, wherein said transition metal is Cu, Fe, Co, Ni and/or Pd.

17. (Previously Presented) The process of claim 15, wherein said Group 4 metal is titanium.

18. (Previously Presented) The process of claim 15, wherein said compound of the transition metal is a halide.

19. (Previously Presented) The process of claim 1, wherein the mol ratio of the transition metal/ Group 2 metal of said disperse phase is 20 to 80.

20. (Previously Presented) The process of claim 19, wherein the mol ratio of the transition metal/ Group 2 metal of said disperse phase is 45 to 75.

21. (Previously Presented) The process of claim 1, wherein said Group 2 metal complex and said transition metal compound are reacted at a temperature of 10° to 60°C.

22. (Previously Presented) The process of claim 21, wherein said Group 2 metal complex is a magnesium complex and said transition metal complex is a Group 4 metal compound which are reacted in a temperature range from 20°C to 50°C.

23. (Previously Presented) The process of claim 22, wherein the Group 4 metal/Mg mol ratio of said denser oil is 2 to 4 and that of the disperse phase oil is 55 to 65.

24. (Previously Presented) The process of claim 22, wherein the ratio of the mol ratio Group 4 metal/Mg in the disperse phase oil to that in said denser oil is at least 10.

25. (Previously Presented) The process of claim 1, wherein said emulsion is composed of a first dispersed phase which is a toluene/TiCl₄-insoluble [-] oil having a Group 4 metal/Mg mol ratio greater than 0.1 and less than 10 and a second disperse phase which is an oil less dense than that of the dispersed phase and which has a Group 4 metal/Mg mol ratio of 10 to 100.

26. (Previously Presented) The process of claim 2, wherein said emulsion stabilizer is a surfactant.

27. (Previously Presented) The process of claim 26, wherein said surfactant comprises an acrylic polymer or methacrylic polymer.

28. (Previously Presented) The process of claim 2, wherein the turbulence minimizing agent is added to the reaction mixture before solidifying said droplets of the dispersed phase, said TMA being inert and soluble in the reaction mixture under the reaction conditions.

29. (Previously Presented) The process of claim 28, wherein the turbulence minimizing agent is a polymer having linear aliphatic carbon backbone chains, optionally having short side chains.

30. (Previously Presented) The process of claim 28, wherein the turbulence minimizing agent is selected from the group consisting of polymers of α -olefin monomers with 6 to 20 carbon atoms or mixtures thereof.

31. (Previously Presented) The process of claim 30, wherein the turbulence minimizing agent is selected from polymers of octene, nonene, decene, undecene, dodecene, copolymers or mixtures of polymers thereof.

32. (Previously Presented) The process of claim 2, wherein the turbulence minimizing agent is added to the emulsion in an amount of 1 to 1,000 ppm.

33. (canceled)

34. (canceled)

35. (canceled)

36. (Previously Presented) The process of claim 1, wherein R stands for a straight chain or branched alkyl group having 1 to 10 carbon atoms.

37. (Previously Presented) The process of claim 36, wherein R stands for a straight chain or branched alkyl group having 1 to 6 carbon atoms.

38. (Previously Presented) The process of claim 4, wherein the aluminum alkyl compound of the general formula $A1R_{3-n}X_n$ is brought into contact with the droplets of the dispersed phase of the agitated emulsion before recovering the solidified particles in step c) in an amount so that the final catalyst particles have Al content of 0.1 to 0.8 % by weight.

39. (Previously Presented) The process of claim 38, wherein the aluminum alkyl compound of the general formula $A1R_{3-n}X_n$ is brought into contact with the droplets of the dispersed phase of the agitated emulsion before recovering the solidified particles in step c) in an amount so that the final catalyst particles have Al content of 0.2 to 0.7 % by weight.

40. (Previously Presented) The process of claim 11, wherein said aromatic carboxylic acid ester is dioctyl phthalate.

41. (Previously Presented) The process of claim 16, wherein said compound of the transition metal is a halide.

42. (Previously Presented) The process of claim 17, wherein said compound of the transition metal is a halide.

43. (Previously Presented) The process of claim 23, wherein the ratio of the mol ratio Group 4 metal/Mg in the disperse phase oil to that in said denser oil is at least 10.

44. (Previously Presented) The process of claim 29, wherein the turbulence minimizing agent is selected from the group consisting of polymers of α -olefin monomers with 6 to 20 carbon atoms or mixtures thereof.

45. (Previously Presented) The process of claim 44, wherein the turbulence minimizing agent is selected from polymers of octene, nonene, decene, undecene, dodecene, copolymers or mixtures of polymers thereof.

46. (Previously Presented) The process of claim 2, wherein the turbulence minimizing agent is added to the emulsion in an amount of 5 to 100 ppm.

47. (Previously Presented) The process of claim 2, wherein the turbulence minimizing agent is added to the emulsion in an amount of 5 to 50 ppm.

48.-53. (canceled)

54. (Previously Presented) The process of claim 29, wherein said polymer is selected from α -olefin polymers having a high molecular weight of about $1 - 40 \times 10^6$, or mixtures thereof.